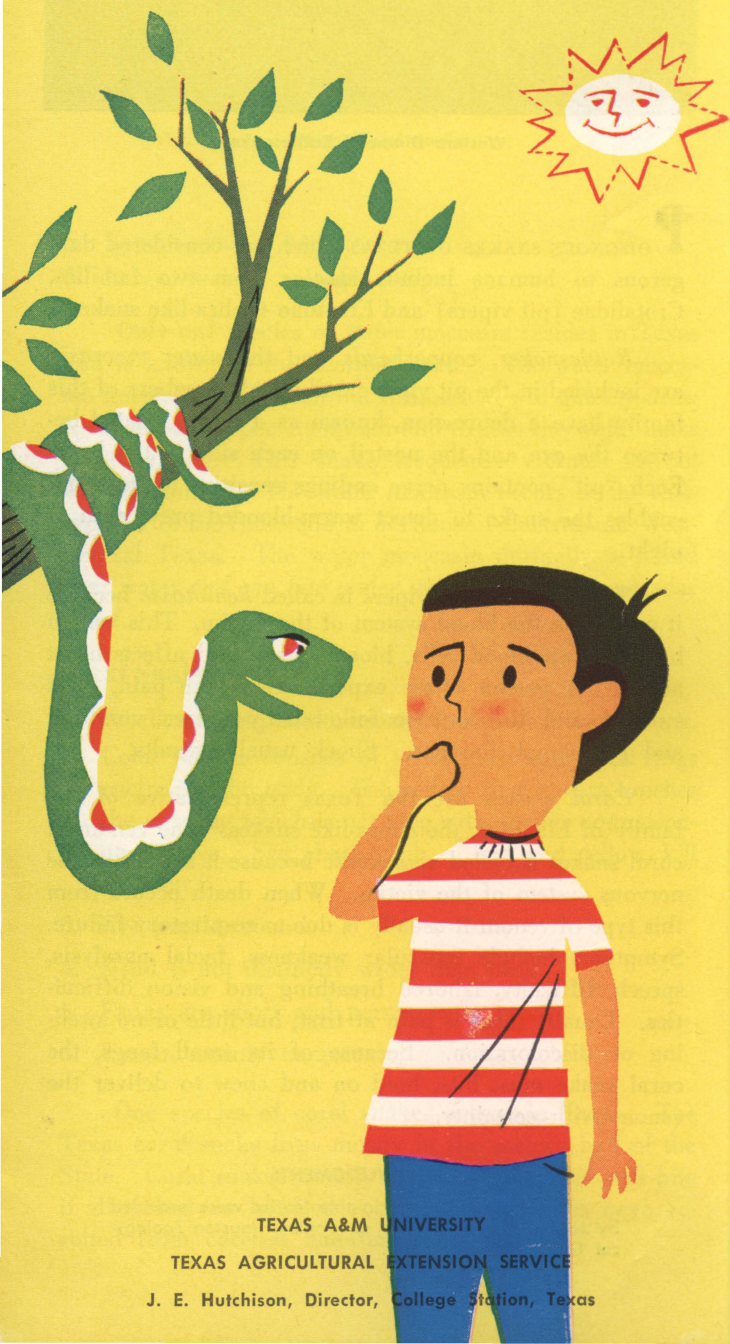


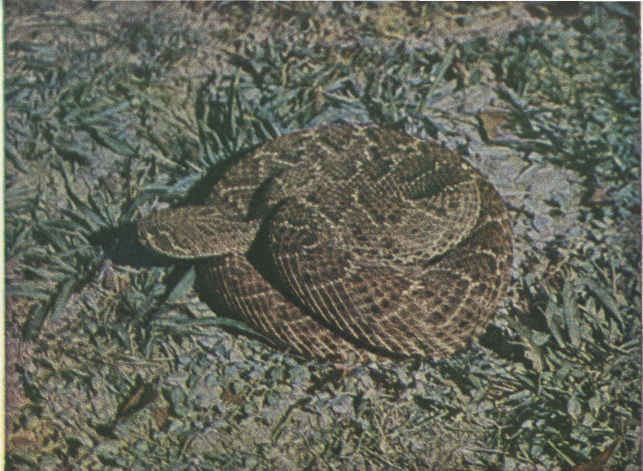
POISONOUS SNAKES IN TEXAS



TEXAS A&M UNIVERSITY

TEXAS AGRICULTURAL EXTENSION SERVICE

J. E. Hutchison, Director, College Station, Texas



Western Diamond Rattlesnake

POISONOUS SNAKES OF TEXAS which are considered dangerous to humans include species from two families, Crotalidae (pit vipers) and Elapidae (cobra-like snakes).

Rattlesnakes, copperheads and the *water moccasin* are included in the pit viper family. All members of this family have a depression, known as a "pit," located between the eye and the nostril on each side of the head. Each "pit" contains nerve endings sensitive to heat and enables the snake to detect warm-blooded prey, even at night.

The venom of pit vipers is called *hemotoxic* because it acts upon the blood system of the victim. This venom breaks down blood cells, blood vessels and affects heart action. A person bitten experiences severe pain, local swelling and discoloration followed by nausea, vomiting and occasional diarrhea. Shock usually results.

Coral snakes are the Texas representative of the family of Elapidae, the cobra-like snakes. The venom of coral snakes is called *neurotoxic* because it acts upon the nervous system of the victim. When death occurs from this type of venom it usually is due to respiratory failure. Symptoms include muscular weakness, facial paralysis, speech difficulty, labored breathing and vision difficulties. Usually there is pain at first, but little or no swelling or discoloration. Because of its small fangs, the coral snake must bite, hold on and chew to deliver the venom with certainty.

ACKNOWLEDGMENTS

The snakes pictured in this leaflet were provided by John E. Werler, curator of reptiles, Houston Zoological Gardens.



Broad-banded Copperhead



Water Moccasin

POISONOUS SNAKES IN TEXAS

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How to Identify Poisonous Snakes

A few distinguishing characteristics make poisonous snakes easily recognized. Some of the characteristics of poisonous snakes in Texas appear below.

Rattlesnakes

1. Rattle present (if not lost by mishap).
2. Head distinctly wider than neck, somewhat triangular.
3. Stout body; adults usually range in length from 18 inches to about 7 feet.
4. Presence of facial "pits."
5. Elliptical eye pupils ("cat-eyes").
6. Color varies with species but includes shades of brown, black, gray, chalky white, dull red, tan and olive green. Frequently rattlesnakes have definite diamond, chevron or blotched markings of particular colors.
7. Fangs are large, hollow and movable.
8. Venom mainly hemotoxic.

Eight species of rattlesnakes occur in Texas and nearly every county has at least one resident species. Most species are not aggressive by nature unless they are unduly disturbed.

Copperheads

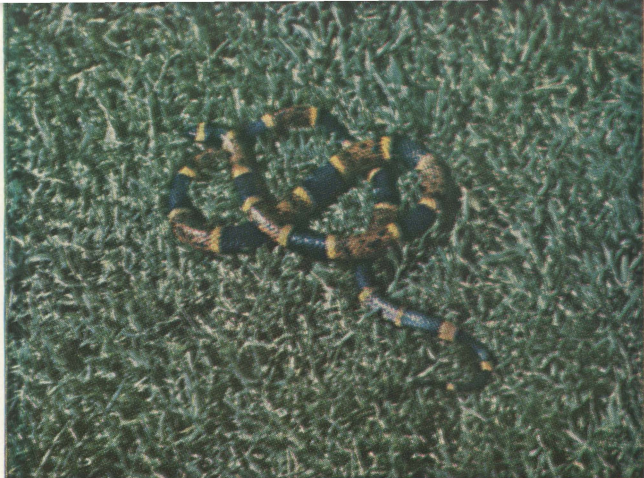
1. General color pattern of chestnut or reddish-brown crossbands on a lighter ground color.

2. Head distinctly wider than neck, somewhat triangular.
3. Elliptical eye pupils ("cat-eyes").
4. Usually small in size, adults ranging from 20 to 40 inches in length. Rather slender.
5. Fangs hollow, movable.
6. Mainly hemotoxic venom.

One species is known in Texas. Copperheads occur in all of the State except for portions of South and extreme West Texas and the Panhandle. These snakes are not aggressive but will strike when molested. They often strike several times in rapid succession and vibrate their tail when disturbed.

Water Moccasin

1. Head distinctly wider than neck, somewhat triangular.
2. Color is usually dark olive, black or dark brown with 10 or 15 dark, wide crossbands. The jaw area below the eye is light in contrast to the dark color on top of the head. The young are marked vividly and strongly resemble copperheads.
3. Elliptical eye pupils ("cat-eyes").
4. Adults rather large and heavy, sometimes reaching a length of about 5 feet.



Texas Coral Snake

5. Venom mainly hemotoxic.
6. Large, hollow, movable fangs.

Only one species of water moccasin resides in Texas and is known as the "cottonmouth." The water moccasin normally is sluggish but if molested will quickly draw its head back, open its mouth and expose the white inner mouth lining. This snake frequently vibrates its tail when disturbed. The water moccasin occurs in the eastern half of the State and in portions of Central and West-Central Texas. The water moccasin normally is found near water *and can bite under water*, contrary to popular belief.

Coral Snakes

1. Small, slender; adults usually less than 30 inches long.
2. Color pattern consists of yellow, red and black rings encircling the body. The yellow ring always touches the red ring which is not true with ~~similar~~ nonpoisonous snakes. See photograph. "Red and yellow, kill a fellow."
3. Eye pupils, round.
4. Head is not distinctly wider than neck.
5. Fangs are short and permanently erect.
6. Venom mainly neurotoxic.

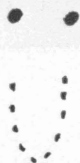
One species of coral snakes occurs in Texas. The Texas coral snake lives mostly in the eastern half of the State. Coral snakes usually are inoffensive but will bite if disturbed or handled roughly. Most bites have resulted from careless handling.

First Aid for Snake Bites

If you are bitten by a poisonous snake, immediate first-aid treatment, properly administered, may save your life. Prompt action is essential.

When a Snake Bites You

Kill the snake for examination to determine whether it is a poisonous species, remembering the characteristics of poisonous snakes described. Also, the pain and swelling will begin almost immediately following the bite of a poisonous snake (except coral snake). Observe teeth marks created.



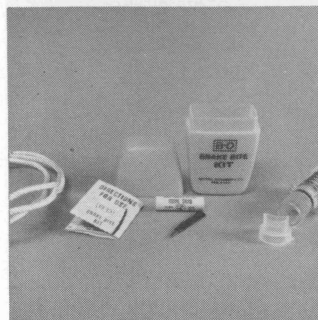
Fang and teeth marks of poisonous snake.



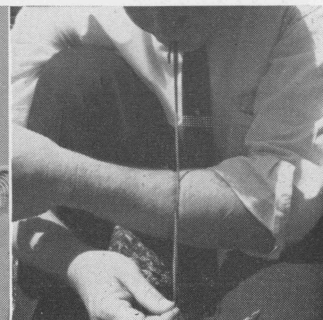
Teeth marks of nonpoisonous snake.

If the Snake Is Poisonous

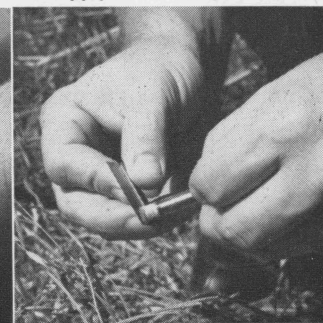
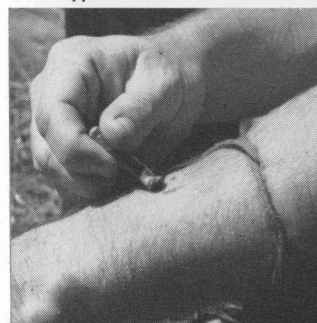
1. Remain as calm as possible. Avoid unnecessary movement. Avoid moving the affected arm or leg. Do not drink stimulants.
2. Tie a constricting band 2 to 4 inches above the bite, between the wound and the heart. A piece of rubber tubing or cord tourniquet included in snake bite kits, is best for this purpose. If these are not available, a shoe lace, handkerchief or a strip torn from a shirt or trousers will do. Do not cut off deeper circulation by applying the band too tightly. You should be able to slip your finger under the band with little difficulty. The band should be loosened every 15 minutes for about 2 minutes; this may prevent gangrene. If the bite is on the hand or forearm, remove rings and other jewelry. Subsequent swelling may make them difficult to remove.
3. Make incisions after sterilizing the bite area and a sharp-cutting instrument, such as a razor blade or knife, with iodine or alcohol. If no antiseptic is available, the wound can be washed with soap and water and the blade of the cutting instrument can be sterilized by holding it over a flame. Make *one* cut over each fang mark parallel with the length of the bitten limb, not across it. The incisions should be $\frac{1}{4}$ inch long and $\frac{1}{8}$ to $\frac{1}{4}$ inch deep. Be careful not to make the incision longer than the diameter of the suction device to be used. Avoid cutting large veins, arteries



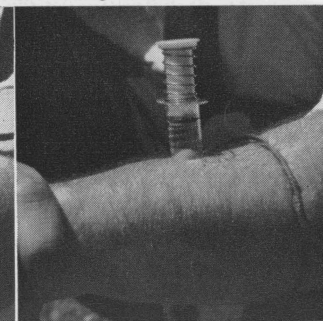
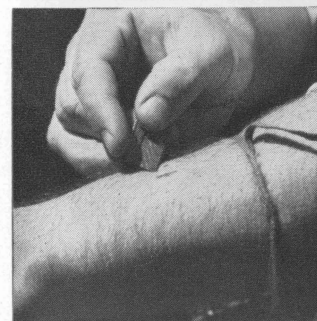
Typical snake bite kit.



Apply constricting band.



Sterilize bitten area and cutting instrument.



Make lengthwise incision over each fang mark. Apply Suction.

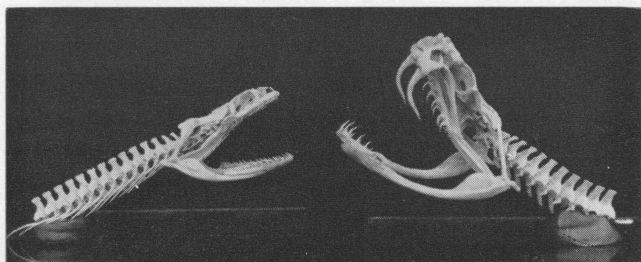
and tendons near the surface. Without incisions, little or no poison can be withdrawn from the wound by suction. Although a physician may later decide to make additional incisions to relieve the pressure of swelling, only the cuts over the fang marks are recommended for first aid.

4. Apply suction to the cuts. A suction device manufactured for this purpose is best. If necessary, suction can be applied by mouth. Poison must enter the bloodstream to be harmful and unless there are cuts

or open sores on the lips or inside the mouth, this method is safe. Digestive juices in the stomach will destroy any venom accidentally swallowed. A tooth cavity will not permit passage of venom into the blood.

5. Get medical aid as soon as possible. If a doctor cannot come to the victim, get him to a doctor as soon as possible. But remember, unnecessary physical exertion is harmful.

Antivenin may be used soon after first aid has been started. Its use, however, should be left to a doctor, since a test should first be made to determine if the victim is allergic to the serum. The North American Anti-snakebite Serum is effective against viper bites (rattlesnakes and copperheads). In case of coral snake bite, a special coral snake *antivenin* must be used. It is not manufactured in the United States, but is usually available from large zoos where poisonous snakes are exhibited. If a person bitten by a coral snake seems to be in serious condition, artificial respiration is recommended.



Skeleton of nonpoisonous snake on left; poisonous snake on right.

Precautions

If you frequently are in an area where poisonous snakes are found, invest in a snake-bite kit. Kits can be obtained at moderate cost at most drugstores.

In areas where snakes are common, wear high-topped leather boots. Trousers which fit loosely around the legs also lessen the possibility of fang penetration by poisonous snakes.

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